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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,647	01/10/2001	Wen-Hsiao Peng	42390.P10900	9521

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EXAMINER

LEE, RICHARD J

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 08/02/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/758,647

Applicant(s)

PENG ET AL.

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al of record (5,436,665) in view of Li of record (US 2002/0080878 A1).

Ueno et al discloses a motion picture coding apparatus as shown in Figures 1, 4, and 5, and substantially the same article comprising a computer-readable medium which stores computer-executable instructions, method, and system as claimed in claims 1-24, comprising substantially the same first unit (102, 29, 103, 30-33, 35 of Figure 1) to generate a first body of data being sufficient to permit generation of a viewable video sequence of lesser quality than is represented by a source video sequence; a second unit (100, 101, 12, 17-24, 27, 104 of Figure 1) to generate a second body of data being sufficient to enhance the quality of the viewable video sequence generated from the first body of data (see column 7, line 42 to column 8, line 38), the second body of data being generated by subtracting a reconstructed body of data (i.e., output of 104 of Figure 1) from a subsection of the source video sequence (i.e., output of 101 of Figure 1), wherein the reconstructed body of data is selected from a group of at least two separate reconstructed bodies of data (see Figure 5 and column 10, line 51 to column 11, line 40), wherein the group of at least two separate bodies of data is selected from a reconstructed first body of data (i.e., 132 of Figure 5) sufficient to permit generation of the viewable video sequence of lesser quality than is represented by the source video sequence, a reconstructed second body of

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data (i.e., 134 of Figure 5) sufficient to enhance the quality of the viewable video sequence generated from the first body of data, or a combination (i.e., 132-133, 140 of Figure 5, and see column 11, lines 30-40) of the reconstructed first and second bodies of data; the second body of data is generated by subtracting a reconstructed body of data (i.e., output from 104 of Figure 1) from a macroblock of the source video sequence (i.e., output of 101 of Figure 1, and see column 9, lines 38-53); wherein the second unit compares the at least two separate reconstructed bodies of data to the source video sequence to adaptively selected from the reconstructed first body of data, the reconstructed second body of data, or the combination of the reconstructed first and second bodies of data, wherein the selection of the reconstructed body of data is indicated in a syntax of a bit-stream transmitted from the system (see column 9, lines 38-53, column 10, line 51 to column 11, line 40); wherein a first set of motion vectors are used by the first unit to generate the first body of data and the first set of motion vectors are used by the second unit to generate the second body of data (see Figure 5); and the first unit and the second unit are included on a single hardware component (see Figure 1).

Ueno et al does not particularly disclose, though, the followings:

(a) wherein the second body of data includes an enhancement layer that captures differences between the viewable video sequence and the source video sequence, and a third unit to predict a subsection of the enhancement layer according to a prediction mode of a plurality of prediction modes, the plurality of prediction modes including prediction using the source video sequence and a combination of a previous enhancement frame and the first body of data as claimed in claims 1, 9, and 17; and

(b) prior to generating the second body of data generated by subtracting the reconstructed body of data from the subsection of the source video sequence, spatially reconstruct and clip the reconstructed first body of data, and spatially reconstruct and clip the reconstructed second body of data as claimed in claims 3, 11, and 19.

Regarding (a), it is noted that Ueno et al does teach that the second body includes a high resolution signal (see column 8, line 59 to column 9, line 8) that captures differences between the viewable video sequence and the source video sequence (i.e., differences between the (a) low resolution picture, high resolution picture, and intra-frame prediction picture derived from the predictor and prediction mode decision unit 104, and (b) the input signal are compared to select a prediction mode, with the low resolution picture representing the viewable video sequence being and the input signal representing the source video sequence as claimed, see column 8, line 59 to column 9, line 8). But Ueno et al does not particularly teach that the second body includes one or more enhancement layers as claimed. It is however considered obvious that the high resolution signal generated by the second body of Ueno et al is equivalent to the one or more enhancement layers as claimed. In any event, Li discloses a video apparatus and method for digital video enhancement as shown in Figure 1, and teaches the conventional enhancement layer generations and that high resolution images are achieved through the enhancement layer coding (see enhancement layer of Figure 1, page 1, section [0008], page 2, section [0012]). In view of such teachings of Li, it is hence considered obvious that the second unit (100, 101, 12, 17-24, 27, 104 of Figure 1) of Ueno et al that generates a second body of data being sufficient to enhance the quality of the viewable video sequence generated from the first body of data provides the same enhancement layer coding as claimed. Thus, the prediction unit 104 of Ueno et al thereby

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provides the same predicting a subsection of the enhancement layer according to a prediction mode (i.e., as provided by 135 of Figure 5 of Ueno et al) of a plurality of prediction modes, the plurality of prediction modes including prediction using the source video (i.e., as provided by 10, 100, 101 of Figure 1 of Ueno et al) and a combination of a previous enhancement frame (i.e., as provided by 27 of Figure 1 of Ueno et al) and the first body of data (i.e., as provided by 102, 29, 103, 30-33, 35 of Figure 1 of Ueno et al and see column 9, lines 38-53, column 10, line 51 to column 11, line 40), as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Ueno et al and Li references in front of him/her and the general knowledge of base and enhancement layer codings within MPEG video coders, would have had no difficulty in providing the enhancement layer coding as taught by Li for the system as shown in Figure 1 of Ueno et al if the high resolution signal of Ueno et al provided by elements 100, 101, 12, 17-24, 27, 104 of Figure 1 of Ueno et al is not already equivalent to the enhancement layer and so that the predictor 104 of Ueno et al predicts a subsection of the enhancement layer for the same well known motion video compensation and different layer coding purposes for providing different quality of images as claimed.

Regarding (b), Li teaches the conventional clipping of reconstructed bodies of data (see 135 of Figure 1). Therefore, it would have been obvious to one of ordinary skill in the art, having the Ueno et al and Li references in front of him/her and the general knowledge of video compression processings, would have had no difficulty in providing the clipping function as taught by Li for the first and second body of data within Figure 1 of Ueno et al for the same well known adjustment of the video to prevent invalid video data purposes as claimed.

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3. The applicants' arguments from the amendment filed May 28, 2004 have been noted, considered, and addressed in the above new grounds of rejection.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:


(703) 872-9314, (for formal communications; please mark "EXPEDITED  
PROCEDURE") (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal  
Drive, Arlington, VA., Sixth Floor (Receptionist).

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.

  
RICHARD LEE  
PRIMARY EXAMINER

Richard Lee/rl

7/29/04

